WIZARDS OF CHAOS AND ORDER: A THEORY OF THE ORIGINS, PRACTICE, AND FUTURE OF OPERATIONAL ART

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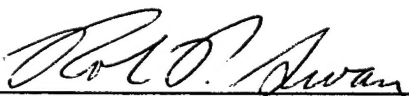
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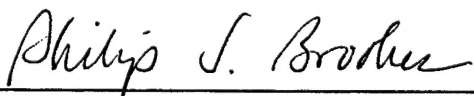
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ABSTRACT

WIZARDS OF CHAOS AND ORDER: A Theory of the Origins, Practice and Future of Operational Art By MAJ Darfus L. Johnson, USA, 58 pages

This monograph asks the question what constitutes operational art? It examines the possible origins of operational art in the Napoleonic era to determine how the nature of warfare changed to reflect the world changes brought on by the Industrial Revolution. This monograph challenges the commonly held belief that the Industrial Revolution was the catalyst for the operational art.

This monograph argues that the development of operational art was conceptual not technical, and although technology immeasurably influenced its promulgation it was not the single catalyst for its development. In order to establish this point this monograph examines the campaigns of Napoleon and Wellington at the beginning of the Industrial Revolution to reveal that the practices of these men would fit the present definition of operational art.

This monograph also examines the further development of the operational art by the Russian theorists who in a substantial way influenced the U.S. development of operational level thought if not directly then as a one time adversary for which the U.S. had to prepare. The monograph argues that the Russian codification of Deep Battle Theory into written doctrine for operations at the middle level between tactics and strategy has effected all subsequent developments in operational theory until the present.

However, the rapid advance of technology and the increasing U.S. involvement in SASO operations, has initiated a new operational environment that does not appear to fit the current operational framework. The monograph concludes with a discussion on this new environment and what the implications are for U.S. operational planners. It reveals that operational art is not obsolete, and that the U.S. military by harnessing the new technologies and subordinating them to sound doctrine, can develop a force more lethal than any before in history. The commanders and planners for this new force with the new systems will be wizards of chaos and order.

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INTRODUCTION

> Strategy depends for success first and
> most, on a sound calculation and
> coordination of the ends and the means.
> The end must be proportional to the
> total means, and the means used in
> gaining each intermediate end which
> contributes to the ultimate must be
> proportioned to the value and the needs
> of that intermediate end-whether it be
> to gain an objective or to fulfill a
> contributory purpose. An excess may be
> as harmful as a deficiency.[1]

The purpose of this monograph is to determine what constitutes operational art; at least in the modern sense, and more importantly to determine if operational art is obsolete.

There is no clear cut answer to either question, but recent U.S. involvement in nations like Iraq, Somalia, Bosnia and Kosovo indicate there is an emerging paradigm for the use of U.S. forces. This paradigm seems to involve the use of U.S. military forces in strategic engagement without the benefit of an operational framework.

It is possible that the new paradigm is a reflection of technological advancements or political realities, with only a loose connection to operational art.

In any case, U.S. doctrine focuses on conducting operational art therefore; it is imperative that planners understand what it is in order to determine when the

practice is divergent. This is especially crucial when there is a risk of technology replacing doctrine.

The essential argument, and a constant theme throughout this monograph, is the importance of a holistic systems approach to engagement. This systems approach creates the necessary synergy between technology and doctrine and directs the operational art.

CHAPTER I

WHAT IS OPERATIONAL ART

> Theory exists so that one does not have
> to start afresh every time sorting out
> the raw material and ploughing through
> it, but will find it ready to hand and
> in good order. It is meant to educate
> the mind of the future commander, or
> more accurately, to guide him in his
> self-education; not accompany him to
> the battlefield.[2]

What is operational art? To some military theorists

and professionals, the answer seems clear. Operational art

is the ability to shape tactical actions to achieve

strategic aims. This is grossly oversimplified but is the

essential purpose of operational art. The various

definitions aside the fighting of battles is always

tactical, infused with uncertainty, fog, friction and

chance. The strategic aim provides direction and a

culminating point for fighting.

In between these tactical battles and the strategic

endstate lies the operational level it is where the

arrangement of tactical actions in pursuit of strategic

aims occur. Luttwak says, "that the operational level is

one that encompasses the minds of the opposing commanders."[3]

He says it is a level where "we encounter the struggle of

directing minds, expressed in conceptual methods of action

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(Blitzkrieg, Deep Battle, Airland Battle), in the ongoing command of all the forces involved, and in the actual adventures and misadventures of those forces." [4]

Which leads to operational art essentially being an expression of the commanders visualization of how he will structure the battle space in temporal and spatial dimensions and how he will use his forces to achieve identified strategic aims. This of course is a very simple view of operational art, and in no way conveys the complexity of actions at the operational level.

However, it does provide the basis for further discussion on the origin, evolution, and future of operational art. One of the purposes of this monograph is to examine the characteristics of operational art that make it unique. This paper also examines the importance of technology to determine if advancing technology makes operational art obsolete. The logical start point for any discussion of the operational art is determining how the concept emerged.

1-2   The Emergence of Operational Art:

The origins of operational art are the subject of an ongoing debate among military professionals, military historians, and military theorists. Many think true operational art originated in the American Civil War, while others will argue that Napoleon was the first practitioner of the operational art.

This situation is further compounded by there being no term to relate large independent but connected operations at the level between tactics and strategy until relatively recently in the history of warfare.

Military theorists such as Jomini, recognized that the coherent movement and employment of large self-contained, independent formations were a more complex operation than simple tactics could describe. Furthermore, the actions of these independent formations while important strategically were not always strategically decisive. This situation obviously required delineation between simple tactical action on a small scale to those actions taken by large formations that could prove decisive.

Thus, the term grand tactics originated to describe the maneuver and employment of these large formations. Furthermore, a distinction was made between what constituted strategic warfare, with the movement of large

formations to achieve positional advantage being strategy, and the ultimate aim of the war being grand strategy. This raises an interesting point if we equate grand tactics or strategy to today's operational level warfare. Then an argument can be made for operational art existing since the time of Frederick the Great. This is a distinction of terminology not the thought process necessary to develop concepts supporting operational art.

However, the answer is not simply fixing the terminology, there are many more characteristics that constitute operational art. It is in defining what these characteristics are that we reveal what is operational art and not just tactics on a grand scale or strategy on a small one.

There are several schools of thought on the emergence of operational art. James J. Schneider in his monograph <u>Vulcan's Anvil</u>, places the emergence of operational art during the American Civil War. Schneider credits the railroads and the telegraph with providing the impetus for the transition from the single decisive battle to distributive operations.[5] (FIG.1)

This will be covered more in-depth later in this chapter, suffice it to say here that the telegraph revolutionized command and control, and the railroads

increased the ability to maintain and sustain large formations indefinitely.

Robert M. Epstein, in his book <u>Napoleon's Last Victory,</u> places the emergence of modern war in Napoleons campaigns against Austria in 1809. Although, the central theme is the emergence of modern war, he makes a strong case for operational methods being the result of this emergence. Furthermore, in defining the conditions for war to have modernity, he also revealed some of the critical characteristics of operational art. He says:

> A war is <u>modern</u> when it has all of the following characteristics: strategic war plan that effectively integrates the various theaters of operations; the fullest mobilization of the resources of the state, which includes the raising of conscript armies; the use of operational campaigns by opposing sides to achieve strategic objectives in the various theaters of operations.[6]

This passage is central to the idea that operational art is a product of mental acuity, and battlefield visualization rather than mechanistic patterns of maneuver. Moreover, since its emergence is considered a product of conceptual change operational art is not totally technology driven.

Perhaps the best example of this point is Napoleon's campaign against Austria in 1809. Napoleon's operations encompassed three theaters, (Germany, Italy, Poland) and if the ongoing operation in Spain is included four. The actions in the Italian and Polish theaters were coordinated to shape the conditions for the German theater in which Napoleon planned to conduct the decisive battle.[7]

The Austrian plan was similar; they intended to attack Napoleon simultaneously in all theaters to achieve relative advantage against the numerically larger French force in the main theater.[8] Although, the armies were symmetrical in every measurable way size, technology, and organization, Napoleon's greater operational vision led to decisive victory at Wagram.

Epstein attributes the victory to better strategy and if not published doctrine, at least a process of common operational and tactical practices that Napoleon fostered in those who served under him.[9] Furthermore, his process of decentralized control allowed his subordinates great leeway within their separate theaters, but assured that their theater objectives ultimately supported his overall strategic aim.[10] If this argument is accepted it becomes obvious, that operational art is possible without advanced technology.

Like Epstein, the theorist Shimon Naveh places the emergence of operational methods in the Napoleonic era. In his book In Pursuit of Military Excellence, Naveh identifies Napoleon's Peninsular War 1808-1814 as having the prerequisites for operational art.[11] However, Naveh selects the Duke of Wellington as the practitioner of operational methods. He says:

> Wellington's conduct of the war provides a remarkable example of a creative systems approach, demonstrated through his perception of the linkage between aim and operational method, his revolutionary application of operational synergy, and his unique comprehension of the interaction between attrition and manoeuvre and the reciprocal relationship between offence and defence.[12]

The way Wellington structured his operations for the Peninsular campaign is an instructive model for fighting out numbered. Wellington used the forces from three nations Spain, Portugal, and Britain to fight combined warfare against a numerically superior and better-equipped French force. Wellington's operational plan was to secure Portugal as a base of operations draw the French inland, force them to disperse, and then pulverize them by a coordinated effort of Spanish troops and irregulars.[13] Furthermore, when an opportunity occurred to strike at the

French main force, he conducted conventional operations with his British forces.[14]

Wellington subordinated both regular and irregular forces to his operational vision, using both conventional and unconventional methods to achieve victory. According to Naveh, Wellington's operational design for the theater was perfectly suited to maximize attrition on the French forces while conserving his own.

Wellington's forces regular and irregular, were mutually supporting, able to conduct sequential and simultaneous actions throughout the Peninsula.[15] These attributes fit the definition of operational art, and furthermore, support the idea that operational art is possible without advanced technology.

1-3 Doctrine...Technology...Symmetry:

If we accept the argument that operational art is possible without advanced technology, then what is the role of technology in relationship to operational art? The first part of this chapter was devoted to establishing the development of the art independent of the influence of technology.

The basic argument was that operational art is a realm of doctrine rather than mechanics. The development of the

art at least in its infancy was not dependent on technology, but the ability and the vision of the commander.

The operational art and operational methods were a reflection of the commander's intuition and his ability to link tactical battles into operational campaigns while maintaining focus on the strategic aim.

This portion is not intended to discount the role of technology in the practice of operational art, and the rest of this and subsequent chapters will discuss just how important technology is to the practice of operational art.

Schneider, in Vulcan's Anvil, argues that operational art is a function of technology. He argues that the Industrial Revolution is the macro source and the telegraph and railroad are the micro sources for the creation and sustainment of operational art.[16]

He identifies several characteristics that these sources made possible. These characteristics are; weapon lethality, logistics, signal technology, formations, command structure, an operationally minded enemy, distributed capacity and continuous mobilization.[17] It is important to note that the presence of these characteristics does not ensure the conduct of warfare operationally

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For instance, the opposing sides on the Western Front in World War I would obviously meet all the above requirements however; it was not a war fought with operational methods.[18] This occurred because technology outpaced doctrine, and the resulting focus on technology alone to provide victory was lethally damaging to the practice of operational art.

For example, in the Battle of the Somme in 1916, the British conducted a frontal assault into the teeth of the German defense reminiscent of Pickett's Charge, at Gettysburg. The British marching almost shoulder to shoulder over open ground, were cut down by machine-guns and artillery at a staggering rate.[19] At the end of the first day of the offensive British losses numbered over 60,000 with fully 20,000 dead.[20]

This debacle occurred because the higher command in an effort to eliminate battlefield confusion and mitigate the effects of technology required a rigid control of forces. By restricting movement to well-marked lanes, and prohibiting coordination between units left and right this control was achieved at a cost in thousands of lives.

Martin Van Creveld in Command In War, argues that tactics were made to suit the technology, objectives for attacks were planned not because of any operational

advantage gained, but because that's how far artillery could be observed.[21]   The lack of doctrinal concepts applicable to the new technologies ensured the failure of the British offensive.

This is again a simple answer for a complex problem. However, it demonstrates the necessity to integrate technology and doctrine when developing operational thought. To take this argument further, consider the operational level as the canvas for the artist's paint (operational art), and technology as the brush.

Without a melding of the two then, the whole endeavor is out of balance and subject to failure. The effective integration of operational doctrine and technology provides a kind of deadly symmetry to operational art.

Epstein, in <u>Napoleon's Last Victory</u>, provides a basis for why wars are either attritional and protracted or short and decisive. Epstein says, that wars are protracted and attritional when the opposing sides are symmetrical. Conversely, wars are short and decisive when the opposing sides are out of balance (asymmetrical).[22]

The same holds true for the relationship between technology and doctrine. I argue that it is not only the clash of symmetrical or asymmetrical armies that determine outcome, but also how effectively those competing armies

meld technology and doctrine in pursuit of their operational goals.

To support this argument two examples from different eras come immediately to mind. The Franco-Prussian War of 1870-71, and The German Campaign in France in 1940, are examples of decisive results between symmetrical armies. The only significant difference between the Allied and German armies was the doctrine that supported the respective army's organization and employment.[23]

In a sense, this did create a sort of asymmetry between the opponents. The Prussian army's doctrine and technology was balanced, while that of France was unbalanced. The Prussian doctrine of speed and maneuver, centered on maintaining a large well-trained, continually mobilized force controlled and directed by a professional General Staff.

Furthermore, the available technology existent in the railroad and telegraph would allow this force to be moved rapidly to the front and concentrated at the decisive point.[24] Conversely, the French began reform in 1868. The passage of legislation authorizing the reserve, (Garde Mobile) was itself problematic, since it was recognized that this force would not be ready until 1875.[25]

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This was a critical failure for when war occurred in 1870, they were not ready. The French command was unused to handling such large units.[26] In the interim the French chose to stress technological innovations (chassepot, mitrailleuse) that along with their assumed better morale, fighting spirit, and experience would assure victory.[27]

Because the French focused on their supposed technological advantage and not on improving organization of reserves, and operational doctrine, they were defeated in 1870 at the Battles of Metz and Sedan. This failure was repeated on a much larger scale in World War II.

On 10 May 1940 the Germans launched the attack on France through the Ardennes by 12 May the French forces were in the early stages of systemic collapse. Although, the fighting would continue until mid-June the outcome was never in doubt.

The French doctrine reflected conditions present in the last war, with only an update of technology. The French had numerical and technical superiority in almost every measurable weapons category.[28] However, the doctrine a variation on that used in WW I, favored a continuos front, with a centrally controlled methodical approach to offense.[29]

The French doctrinal use of the methodical battle to achieve decision was unsuited to the rapid maneuver afforded the Germans by their independent tank divisions and corps supported by air and mechanized infantry assets. The French instead of concentrating tanks to operate in a similar manner, instead continued to focus on tank support of infantry in the methodical battle.[30]

The French command and control structure was also obsolete. The rigid C2 structure proved inadequate to cope with the rapid German advances. The speed and shock of the advance made orders invalid as soon as they were issued eventually paralyzing the French system and causing collapse.[31] These examples from different eras demonstrate the danger in focusing on technology to the detriment of doctrine.

The French in both instances failed to develop operational doctrine that supported their level of technological development. This failure led to their defeat in 1870 after seven weeks and in 1940 after six.

Perhaps the lesson learned here is that to be successful in war the operational artist must strike a balance between technological capabilities and operational doctrine. The artist that is better able to strike this

balance, achieve this wonderful symmetry, will be able to
define what constitutes operational art.

Napoleonic era
1805-1815
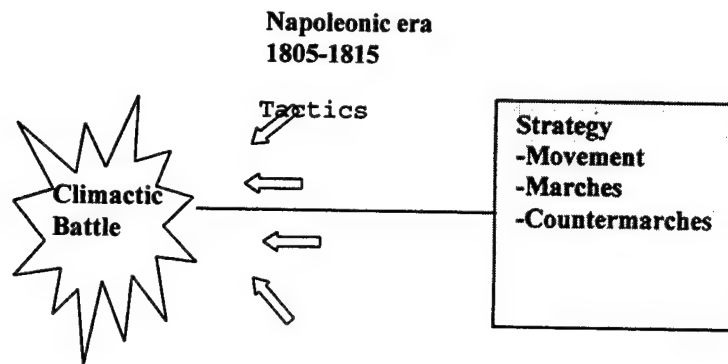
Polarization between Strategy and Tactics; Strategy was concerned with bringing the Army to the field. Tactics was the domain of actual fighting. For Napoleon, it was the strategy of the single point. The Army marched dispersed but fought united.
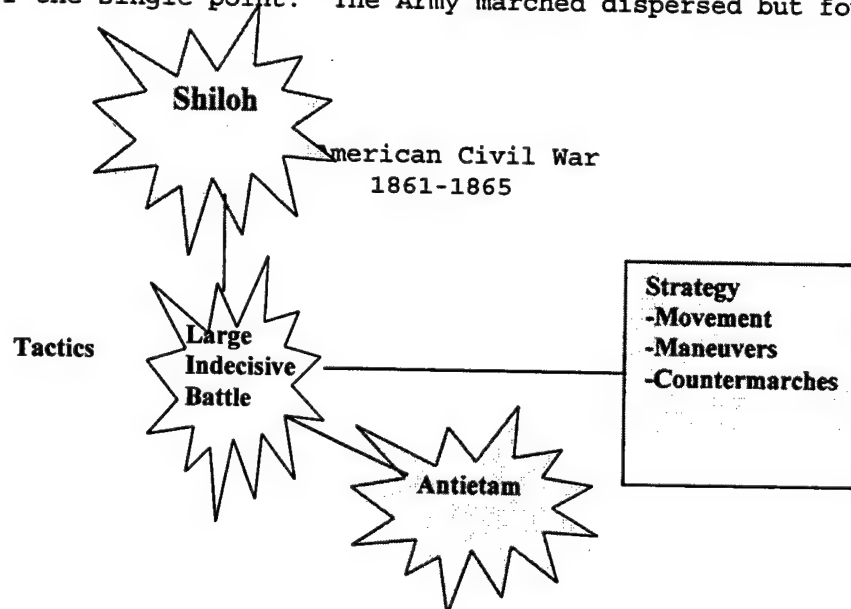
Polarization between strategy and tactics still present; battlefield greatly extended by technology; strategy occurs on two levels; theater strategic is still concerned with concentration of forces after they are deployed to force a single decisive battle; Grand strategic focuses on exhaustion of war making capability. Technology increases the resilience of armies; logistics becomes a carefully planned endeavor. With no unifying logic between the strategic maneuvers and tactical battle, the battles are indecisive even to the winner. For example, Gettysburg often cited, as the turning point of the war still did not end the Civil War. The South won many more large battles after Gettysburg, that were indecisive from a strategic standpoint. The Civil War ended only when the South no longer perceived it could win the war.
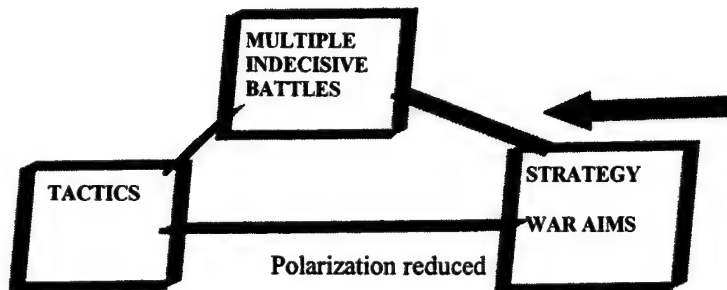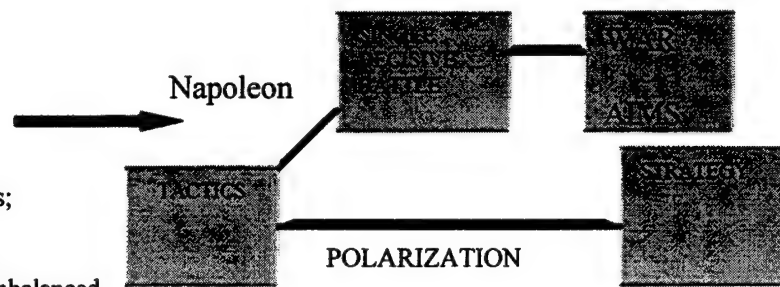
FIG.1

Napoleon

Characteristics
Strategy separate from war aims;
Single climactic battle;
Battle limited in space and time
Technology similar; Doctrine unbalanced
War aims achieved by climactic battle

EXAMPLE
ULM-AUSTERLITZ 1805
JENA-AUERSTADT 1806

POLARIZATION

MULTIPLE INDECISIVE BATTLES

TACTICS

STRATEGY

WAR AIMS

Polarization reduced

CIVIL WAR

CHARACTERISTICS
Strategy 2 tiered loosely tied to war aims
Battle extended in space and time
Technology influences strategic maneuver
Technology similar; doctrine does not match technology
Search for decisive battle leads to multiple indecisive battles
War aims achieved by exhaustion

EXAMPLES
Numerous

MOLTKE

CHARACTERISTICS
Strategy linked to tactics
Battle extended in space and time
Technology similar; Doctrine unbalanced
Strategic maneuver influences tactical use
War aims achieved by decisive battle

EXAMPLES
METZ-SEDAN

TACTICS

DECISIVE BATTLES WAR AIMS

STRATEGY

Strategy = mobilization, maneuver leads to
tactical employment

Polarization
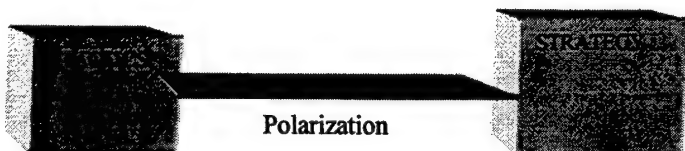
WORLD WAR I

CHARACTERISTICS
Strategy disconnected from tactical reality
Battle linear confined to available space
Technology advanced; doctrine of mass does not
Match technology Strategic maneuver similar to
Napoleonic era to achieve positional advantage to
break stalemate
War aims achieved by exhaustion

FIG.2   EXAMPLES: Numerous

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CHAPTER II

SYSTEMS THEORY AND THE PROMISE OF OPERATIONAL ART

> In discussions on General Systems
> Theory the danger is equating it with a
> single self contained general theory of
> practically everything since we pay for
> generality by sacrificing content, and
> all we can say about practically
> everything is almost nothing.
> Nevertheless, there ought to be a level
> at which a general theory of systems
> can achieve a compromise between the
> specific that has no meaning and the
> general that has no content. Such a
> theory could point out similarities
> between theoretical constructions of
> different disciplines, reveal gaps in
> empirical knowledge, and provide a
> language by means of which experts in
> different disciplines could communicate
> with each other.[32]

The previous chapter discussed the origins and characteristics of operational art in the 19th Century. It also discussed the importance of technology to the past practice of operational art. The central theme was that operational art was driven by doctrine, which set the conditions for the use of technology. Furthermore, those states that achieved a balance between the two were ultimately successful in war.

However, technology did initiate a new operational paradigm. Because of technology, wars could no longer be decided in the single climactic battle. The early 20th

Century armies were resilient to destruction able to
reorganize and fight in one huge battle after another.
Furthermore, the size of these armies made the old linear
patterns of maneuver obsolete.

This necessitated the development of an alternative
method to effect the defeat of the opposing army. The
application of systems theory to military actions is the
alternative method that has become a part of the practice
of operational art in the 20th Century.

How does this relate to the role of doctrine and
technology in the conduct of operational art? To put this
idea in contemporary terms, to reach its full potential
operational art should be a synergistic combination of
doctrine and technology. Moreover, the most effective way
to achieve this synergism is to use a systems approach to
warfare.

2-2 Basic Theory of Systems:

Systems theory deals with the study of wholes.[33] This
acts counter to the reductionist methods prevalent in
Western society, where organizations are reduced to their
component parts as means of discovery about the workings of
the organization.[34] Reductionism is the process of seeking
simple answers to complex problems.[35]

For example, an indifferent student of history can recite World War I started because of the assassination of the Austrian Archduke.[36] However, the real reasons for the war were much more complex, some going back for centuries. The assassination was only the physical manifestation of these systemic problems.[37]

In systems theory the organization is viewed in its entirety to discern what gives the organization coherence. Systems theory allows for the existence of two categories of systems. The closed system, subject to the second law of thermodynamics and entropy and the open system characterized by the free exchange of material and information.[38]

For the purposes of this monograph, only the open system will be discussed, since social systems, characterized by the free exchange of information are inherently open and conflict is a form of societal exchange.

The open system is not only characterized by the free exchange of information; it is also resilient to destruction. This resilience is a product of the complex adaptive nature of the system itself.

In close concert with the systems, adaptive nature is the systems constant reorganization based on input positive

or negative, and the assimilation of this input to serve the needs of the system. Ludwig von Bertalanffy describes the self-organizing nature of all systems. He says, "self-organizing systems are systems organizing themselves by way of progressive differentiation, evolving from states of lower to states of higher complexity."[39]

2-3 Military Doctrine and The Theory of Systems:

What does this mean in terms of military systems? The impact when viewed from a military perspective is profound. For example, at the operational level, a corps command headquarters is analogous to a self-organizing system. It is a system able to plan ahead, and to plan well enough to be militarily effective. Furthermore, any C2 system flexible enough to cope with developing contingencies assumes an adaptive posture.[40]

In addition, within a systems framework operational art provides the "cognitive unity" that transforms abstract concepts of strategy into the practical missions of tactics.[41] Naveh calls it "cognitive tension," he says that, "cognitive tension is the universal dynamism that results from the inevitable tension between the tactical objective, which orients the fighting formations at any

level, and the operational or strategic aim which directs the system as a whole."[42]

Simply put, this cognitive tension is necessary to have operational art in modern warfare. It links tactical objectives to operational goals in pursuit of the strategic aims. Moreover, it provides the system at least in the military sense with its rationale, its reason for existence.[43]

Although, this is a bit difficult to follow, the essence of Naveh's theory seems to be that although operational methods were present in warfare prior to the application of systems theory, this did not necessarily equate to operational art.
The lack of operational cognition, (defined as a deliberate realization of, intent, and purpose to execute operations at the middle level between strategy and tactics), precluded the development of concepts that linked the levels of strategy and tactics together[44]

Figure 2 graphically depicts the polarization between tactics and strategy for the period between Napoleon and the codification of written doctrine addressing actions at the operational level. The final and perhaps most important lesson to be gained from a study of the relationship between systems theory and operational art, is

the means to achieve success against complex adaptive, self-organizing systems.

According To Naveh, the only way to achieve success against this type of resilient system is to disrupt its rationale, the cognitive tension that motivates the system.[45] In other words to shock or paralyze the system rendering it unable to function.

2-4 Operational Shock:

> Tactics, operational art and strategy
> as a whole stem from the materiel and
> personnel that a state allocates for
> the conduct of warfare. Military art,
> torn away from this foundation, is
> inevitably converted into adventurism
> and fantasy and can lead to nothing
> good. But all this has a reverse
> influence as well. Tactics,
> operational art and all strategy not
> only consider the materiel base and
> flow from this, but in turn, indicate
> and map out the paths of further
> development and expansion of this
> materiel base.[46]

Arguably, the concept of operational shock reflects the greatest single operational paradigm shift from the Napoleonic era until the present. It is a concept developed specifically to address the polarization between strategy and tactics existing since the 19th Century. The development of the operational shock concept signified a complete break from past methods of warfare, and introduced a concept that would influence warfare for the balance of the 20th Century.

What is meant here is despite the existence of operational methods, a concise written theory for action at the operational level did not exist prior the Russian development of the Deep Battle Theory and operational shock.[47] This in turn influenced the U.S. development of

the Airland Battle doctrine that signified the U.S. military's emergence as an operationally focused entity.

It is important to point out here that the Russians developed Deep Battle Theory and the concept of operational shock long before they had the technological capability to execute it. This is also true to a certain extent for the U.S. and its Airland Battle doctrine.[48]

The Russians developed the theory of operational shock during the interwar period, in response to the disillusionment with the universal focus on achieving the decisive battle prevalent in World War I.

The record of WW I is replete with instances where both sides sought to change the course of the war through a decisive battle. The initial German invasion in the West in 1914 was intended to be short and decisive allowing Germany to turn and assist Austria in the East against Russia and Serbia.[49]
This initial action ended with eventual stalemate in the battle of the Marne, and both sides racing to the sea in an attempt to out flank the other.[50] In the East the battle of Tannenberg in 1914, was just as futile in providing decision.[51]

Although, battle on the Eastern Front did not result in the trench warfare common in the West, the search for

the decisive battle was just as elusive. The Battle of Tannenberg in August of 1914 was characterized by the Russian inability to control a massive force of nearly 500,000 men.

Compounding the inability to control, this force was the lack of a doctrinal basis for its employment. This prevented effective coordination between the corps, and the sheer size of the force made logistics sustainment difficult.[52] Although, a huge defeat for the Russians it did not end the war in the east. By May of 1915, the Russians were able to advance once more and reoccupy portions of East Prussia.[53]

The size of the armies involved and the disconnect between technology and doctrine made a single decisive battle impossible. This lesson was not lost on the Russians. The subsequent reinforcement of this fact in the war with Poland in 1920 necessitated the development of other methods to achieve victory against large military formations.

The Russians recognizing that complete destruction of military systems was impossible, developed alternative approaches for defeating these systems.[54] In developing these alternatives came the recognition of a level of

military coherence between the tactical and the strategic that would dominate future military actions.

This level coined the operational level by Russian theorists, was intensively analyzed to identify what made the system viable.[55] Out of this analysis they developed means to shock the system, oriented on fragmentation of the system into its component parts rendering it unable to function.[56]

This would be accomplished by attacking the system in both the horizontal dimension, along its front, and vertical dimension, throughout its depth. This was designed to prevent cooperation between its formations frontally, and in depth, making the entire operational command and control process untenable.[57]

In order for the Russians to achieve operational shock a massive mechanized force was necessary. The Russians pursuit of mass sought to create overwhelming concentrations of combat power throughout the depth of the theater to set the terms of operations.

The Russians, through an analysis of an opponents entire system identified the exact points of strength and weakness in the system. They then sought to induce and exploit these points of weakness to achieve the aforementioned operational shock.

Western military experts often associate the Russian theory of mass as focusing on numbers, there is this aspect but only in pursuit of the overall operational depth required in forming a "critical force" beyond an opposing systems mass center.[58] To achieve this the Russians separated the operational force groupings into three distinct entities with clearly defined roles.

The first operational grouping the "holding force" reflected the attritional nature of even modern war. This force conducted frontal assaults with the purpose of drawing forward the defense of the opponent, in an attritional battle along the defensive front.[59] The holding force also sought to achieve local penetrations for the follow on striking force to exploit into an opponent's operational depth.

The second operational grouping the striking force, is the aforementioned critical force that the Russians sought to place deep in the opponent's rear. In Theory, the arrival of this massive force in the depths of the enemy rear begins the process of turning over and systemic collapse.

The third operational grouping the desant, airborne and deep aviation forces fixed the far limits of the opponents depth then worked from the rear forward toward

eventual link-up with the striking force. This prevented the rear from cooperating with or coordinating the movement of reserves and uncommitted forces thereby completing the paralysis of the rival system.

The development of this operational concept rooted in systems theory has indelibly changed operational art. Arguably, it was the final element required to cement operational cognition into the military consciousness. With the application of systems theory to military operations, the long delayed leap from operational knowledge to an understanding of operational art was accomplished.

2-5 Airland Battle the Emergence of Operational Cognition:

The importance of the operational level of war in U.S. doctrine was long delayed. The pattern of U.S. engagement prior to 1982 centered on operations at the tactical level with no coherent doctrine linking strategic aims to tactical action. The U.S. achieved victory in combat through a dependence on technological superiority, and overwhelming resources. The Vietnam War revealed the U.S. lack of operational cognition, and initiated the U.S. transition from the shallow focus on tactical doctrine to a systemic analysis of military activity[60].

With the adoption of Airland Battle, the U.S. military completed the transformation to a force with an operational level focus. Far from being a new development in operational theory or doctrine, it simply reflected recognition of the operational paradigm first recognized by the Russians in the 1930's.

However, the U.S. version combined the best elements of the Russian Deep Battle Theory, into a uniquely American synergy of technology and doctrine. Repudiating the Russian penchant for mass the U.S. focused on developing a smaller force with a qualitative advantage.

With this qualitative and technological edge, the U.S. in theory would achieve the same effects as the Russians would with mass. The validation of the new U.S. doctrine and technology occurred in Operation Just Cause on a small scale, and Operation Desert Storm on a much larger one. U.S. forces using a systems approach achieved operational shock and conflict termination in an amazingly short time.

2-6   "Shock and Awe":

> Of decisive significance in a future
> war will be its initial period….The
> more effectively a country uses at the
> outset the troops and equipment it has
> accumulated before the war, the greater
> the results it can achieve at the very
> beginning of a war, and the more
> quickly victory is achieved.[61]

At 0100 on 20 December 1989, 4,000 airborne troops from the 75th Ranger Regiment and 82d Airborne Division conducted the largest U.S. airborne operation since World War II.[62] This initiated the finest example of systems disruption or operational shock since the Russian invasion of Czechoslovakia in 1968.[63]

Planning for the invasion of Panama had began fully a year and a half before execution. The plans and the eventual execution reflected the new level of operational cognition present within the U.S. military establishment.

Although the plan went through several iterations, in order to meet military and political requirements, the final plan was a superb melding of the military-political aims with operational realities.

Furthermore, it was arguably the first time the U.S. military applied systems logic to the execution of an operational plan. The stated aims of the operation was to ensure the safety of American civilians living in the area, remove dictator Manuel Noriega, and install the legally elected government of Panama.[64]

The challenge to U.S. planners was to align operational capabilities with these requirements. An additional requirement, one imposed by the Goldwater-

Nichols Act, was that any operation must use the spectrum of U.S. Joint capabilities.[65]

With all these considerations in mind U.S. planners structured operations to take advantage of U.S. technological and information advantages. By applying a systems approach the U.S. planners identified the Panamanian strengths and vulnerabilities in order to shock the system. One result of this systemic analysis and possibly the most important was a realization that the source of Noriega's strength was the Panamanian Defense Force (PDF).[66]

The U.S. planners applying systems logic realized that the removal of Noriega would not in itself resolve the situation in Panama. The PDF a virtual breeding ground for dictators would have to be eliminated as an organization able to effect the democratic process. The subsequent changes to the operational plan reflected the increased scope of the operation to include the take down of the PDF as a viable entity.[67]

The final consideration and one tied to a more aggressive posture towards the PDF, was the placement of PDF forces and their positioning relative to U.S. civilians and installations to include the Canal Zone. The U.S.

planners wanted as much as possible to limit collateral losses among U.S. and Panamanian non-combatants.

Planners determined that the only way to limit collateral loss was to simultaneously take down the bulk of the PDF forces especially those that were the most loyal to Noriega.

The U.S. in executing Operation Just Cause achieved almost total surprise. Using overwhelming combat power, U.S. forces conducted simultaneous and sequential operations against major PDF locations, the Panamanian transportation network, and the command and control facilities for the Panamanian forces. The plan in its execution created a synergy between all forces that led to the rapid collapse of the PDF and mission accomplishment in only five days.[68]

In the final assessment, Operation Just Cause reflected the complete transition of the U.S. military from a tactical focus to an operationally oriented, systems based organization. The performance of this force in Panama using a systems approach demonstrated the wonderful symmetry possible when doctrine, technology and operational cognition are utilized within the systems framework.

The performance of U.S. forces in Desert Storm proved the same applied for heavy forces. However, in validating

the Airland battle doctrine, and in demonstrating
technological overmatch, the U.S. may have initiated a new
paradigm. The performance of the U.S. forces in Operation
Just Cause and Desert Storm makes it very unlikely that the
U.S. will face a conventional threat in the immediate
future.

Therefore, future threats to the U.S. and its
interests will be increasingly asymmetrical. These
asymmetrical threats are at the heart of the new
operational paradigm. Asymmetrical challenges make the
means and purpose for U.S. engagement more ambiguous and
operational requirements more uncertain.

The ambiguous nature of the threat frustrates all
attempts to apply operational cognition, because they do
not fit a recognizable operational framework.

In addition, the lack of clearly defined strategic
aims linked to achievable operational goals will also
challenge the operational planner's ability to determine
the requirements. When the proliferation of new technology
and information systems are added to this equation the
complexity of asymmetrical engagement becomes overwhelming.

In the final analysis this new environment challenges
the relevance of operational art and threatens to make it
obsolete.

Summary Chapter II:

Chapter II argues that a systems approach is an inherent characteristic of modern operational art. In fact, the application of systems logic to military actions set the stage for all subsequent developments in operational art. The Russians recognizing that warfare had changed used systems logic to develop a codified doctrine that focused specifically on the operational level.

This essentially ended the polarization between strategy and tactics that characterized much of the warfare between the Napoleonic era and World War II. The Russian development of operational shock was the product of this systemic analysis, and had a pervasive influence on U.S. doctrine.

The subsequent U.S. development of Airland Battle was a result of a systemic analysis of the Russian doctrine, and the force developed from this analysis scored decisive triumphs in Operations Just Cause and Desert Storm. However, this very success initiated a new operational paradigm that challenges the relevance of operational art.

CHAPTER III

3-1   The Emergent Paradigm..Asymmetrical Engagement..SASO:

> If a decision by fighting is the basis
> of all plans and operations, it follows
> that the enemy can frustrate everything
> through a successful battle. This
> occurs not only when the encounter
> affects an essential factor in our
> plans, but when any victory that is won
> is of sufficient scope. For every
> important victory- that is, destruction
> of opposing forces- reacts on all other
> possibilities. Like liquid, they will
> settle at a new level.[69]

The future of operational art is secure in the U.S. military, mainly because so many military professionals think and debate on its merits. However, having said this I argue that the operational art is in a transition period similar to the one experienced in the 1980's. The result of that earlier transition was a force with technology and operational doctrine perfectly balanced.

The operations in Somalia, Iraq, and Kosovo to some extent have upset this balance. Daniel p. Bolger in his book, <u>Savage Peace Americans at War in the 1990's</u>, implies this imbalance occurs because of several reasons. They are; the lack of clearly defined aims, with an achievable endstate; the military's reluctance to perform these types of missions; and over reliance on technological solutions.[70]

While this is true, the issue is more complex and goes to the heart of the continued relevance of the operational art in this new environment.

The following discussion on Operation Restore Hope demonstrates the need to think operationally in every instance where the use of military forces becomes the means of response. This applies to peacekeeping, or humanitarian assistance. Operation Restore Hope is an object lesson, and one the U.S. will not soon forget.

The operation in Bosnia is an example of the lessons learned in Somalia; the U.S. even in a peacekeeping/humanitarian assistance role still maintains a large enough force to conduct combat operations if required.

Operation Restore Hope was conducted three years after Operation Just Cause and one and a half years after Desert Storm. However, in terms of operational cognition it was a reversion to a period when the U.S. military was tactically focused. The first and foremost problem was the lack of a systems approach to engagement in Somalia.

As discussed before to have operational cognition a systems approach to conflict is necessary. It allows planners to examine the problem of engagement from a holistic perspective in order to determine the appropriate actions required.

The U.S. failure to take a system approach to this operation allowed the operation to quickly deteriorate into an ad hoc process of responding to an escalating threat that was asymmetrical in nature. The primary reason for this ad hoc process was a lack of clearly defined aims to which an operational framework could be applied.[71]

The U.S. leadership agreed to a narrow charter for the operation, the establishment of secure areas to facilitate humanitarian relief. The UN subsequently passed UN Resolution 794, authorizing UN forces of which the U.S. was part, to use force in resolving the nations internal dispute.[72]

This additional requirement launched the U.S. on a course of gradual escalation. The fluid security environment in Somalia required that seizure of weapons was necessary just to establish security for relief efforts. This created an operational environment that was closer to war than humanitarian relief.

However, this in no way absolves military planners from developing operational plans flexible enough to deal with different contingencies. This was particularly necessary in the face of the documented Somalian resistance to outside influence.[73]

For example, the British spent 21 years from 1899-1920 trying to subdue Somalian warlords.[74] Compounding the confusion and frustration of the gradual escalation, was the redeployment and rotation of U.S. units. Essentially as the fighting increased the U.S. troop commitment decreased.[75] In addition, the U.S. removed the bulk of its critical ground troops. The U.S. offset their absence with technology in the form of airpower from carriers offshore, helicopters, AC-130H gunships, and high tech special operations forces.[76]

This effectively gave the warlords an asymmetrical advantage in what they had plenty of, riflemen. The Somalian warlords used this advantage to frustrate every attempt by U.S. forces to bring the fighting to an end. Consequently, the U.S. giving in to this frustration conducted the raid on Mogadishu in October of 1993.[77]

This techno-tactical response exemplified the lack of operational vision present throughout the entire operation and ended in disaster.[78] Although, the raid was a tactical success the overall outcome was an operational and strategic defeat. The American people who had been told that the operation was humanitarian only were outraged to find that troops were actually conducting house to house combat.[79]

The lessons learned in this operation are ones the U.S. should have learned in Vietnam, tactical success alone are worthless, if it does not support attainment of the operational objectives. The operational objectives must in turn be linked intrinsically to endstate to ensure that the effort and resources expended is worth the cost.

Another lesson learned is the ability of an opponent any opponent to frustrate the U.S. ability to achieve its aims, an ability all out of proportion to the opposing nations perceived war making capability.

Finally, this engagement gives U.S. planners a window to the future, raising questions about the role of technology, and doctrine, their potential impact on operational art and future U.S. engagement. The importance of this transformation on the military and its systems is clearly still emerging.

CONCLUSION

Because of the increasing U.S. dependence on technology and information, the potential exists for the devaluation of operational art. It seems that the pursuit of ever-greater technology has led to a decrease in operational cognition.

This has occurred because technology and information overmatch creates the impulse to use techno-tactical solutions to achieve strategic aims.[80] John F. Guilmartin Jr. in his article Technology And Asymmetrics in Modern Warfare implies that the U.S. use of high tech solutions in low-tech environments like Somalia is actually counter-intuitive.

He says; "High tech methods of warfare do not necessarily lend themselves to conflict against low tech opponents lacking the traditional objectives, lucrative targets, and direct operational methods vulnerable to high tech weaponry."[81]

Although this is true, it is also irrelevant. The real value of these systems from a strategic-operational perspective goes beyond simply their use in combat. They also have a moral impact in that they preserve American lives.

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For example, the U.S. Secretary of Defense was forced to resign after the debacle in Somalia. This occurred not because he allowed an ill-defined mission to get out of control, but because he did not provide the appropriate military systems when requested.[82]

Actually, not only the military but also the American people depend on advanced technology to provide victory at a practical cost. This shapes the methods of engagement as surely as any operational plan.

With this in mind, a return to less technology dependent methods of operations is unlikely. Thus, the challenge to operational planners is to develop concepts that progress apace with technological and information systems.

The logical start point for this process is with the basic doctrine that provides the framework for military engagement. This framework is designed to provide structure to the operational artist's visualization of his battle space.

Called the Battlefield Framework, it calls for the commander and his planners to visualize operations within that space in both conceptual terms (time and space), and mechanical resources (forces available).

The development of plans to effect the enemy within this framework breaks the process into discrete areas identified for specific actions. This process focuses on the distributed nature of operational art, and the distributed enemy, and is expressed in terms of actions taken deep, close, and rear (DCR).

This framework while useful for conventional conflict is difficult to apply to an asymmetrical environment. In recognition of this difficulty and cognizant of the danger of techno-tactical solutions, the doctrine in development proposes a new framework.[83]

The new operational framework is a conceptual shift from (DCR), to Decisive, Shaping, Sustaining (DSS).[84] This framework appears to be more applicable to SASO and asymmetrical engagement, because it focuses on purpose more than alignment of forces in space.[85]

While this emerging doctrine is significant, what is of real importance is the conceptual debate it generates on the future of operational art. For example the 1976 version of FM 100-5 accomplished two things, it was a catalyst for the technical systems used in Desert Storm, and it sparked the debate that led to Airland Battle.[86]

In light of the similar debate surrounding the development of the new FM 100-5 it can be assumed that it

will serve as the catalyst to again align technology and doctrine. The result will be a more lethal version of operational art applicable in any environment.

It will combine all the principles of the old (simultaneity, momentum..), with capabilities of the new (full spectrum dominance) into one rapid, continuos, and decisive joint operation.[87] This operation would have decisive strategic outcome by collapsing together the strategic, operational and tactical levels of war.[88] (FIG.3)

In this monograph the origins, practice, and future of operational art was examined to determine what made its development unique. What became immediately apparent is that its origins can be applied to any era from Napoleons to the German Blitzkrieg. In fact, it is not inaccurate to view the concept as a child with many mothers.

The contributors all added something of significance to its development, from Napoleon's army organization and tactical vision, to Grant's adherence to the aim in war. The American Civil War demonstrated the importance of technology and industrialization, and Moltke with his process of continual mobilization all had a role in its progression.

However, the codification of the operational art into written doctrine for actions at a level above tactics and

below strategy must began with the Russians. The Theory of Deep Battle reaches beyond the single dimension of the tactical battle to viewing war in all dimensions.

Furthermore, the Russians applied systemic analysis to the operational art viewing the rival army as a military system inseparable from the systems that supported it. The American development of Airland Battle took the Russian theories to a new level achieving through quality and training what the Russian sought to achieve with mass.

The U.S. conduct of Operation Desert Storm appears to have initiated another operational paradigm. This paradigm appears to be the shift away from the large conventional battle towards an increase of asymmetrical engagement. The U.S. is still developing the doctrine to suit this new environment filled with uncertainty and ambiguity.

However, when this transition is complete the new systems and doctrine will be more lethal than any that has existed before and the commanders and planners for this new force will be wizards of chaos and order.

The new technologies and the development of operational doctrine have the potential to collapse together all levels of war in one decisive operation. Theoretically, this new operational art would be applicable to any environment. However, it seems to me it requires an up front commitment to accept risk in loss of lives that using technology alone would not.
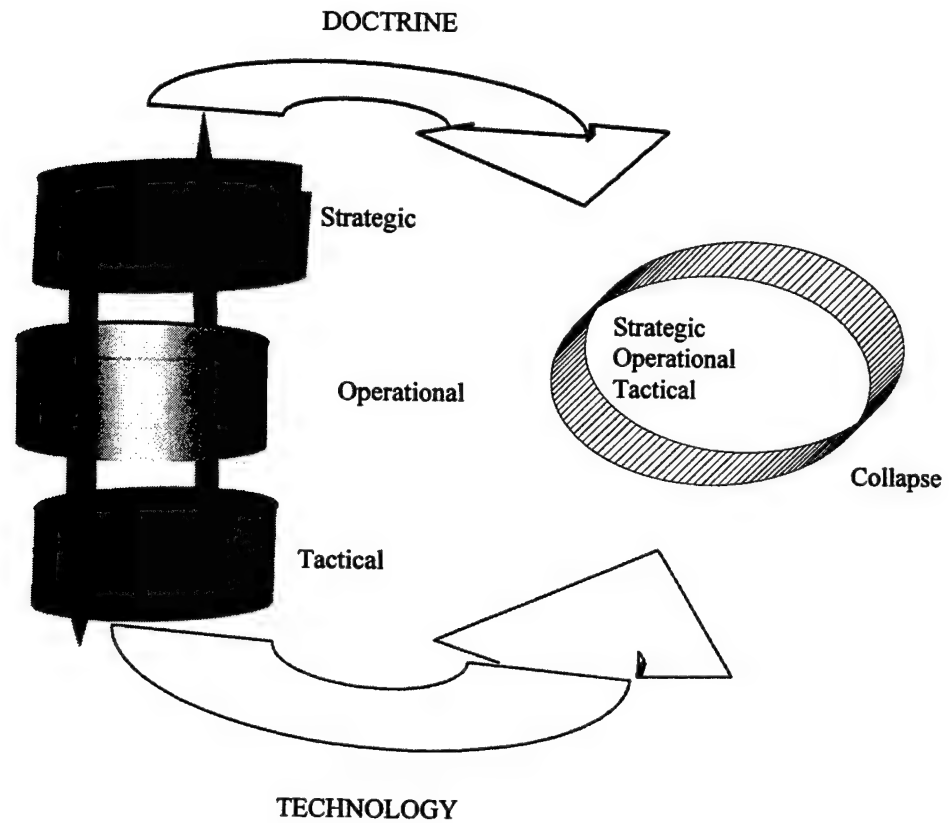

FIG. 3

[1] B.H. Liddell Hart, Strategy, rev. ed., (New York, NY: Signet, 1974), 330.

[2] Carl von Clausewitz eds and trans, Micheal Howard and Peter Paret On War(Princeton, NJ: Princeton University Press, 1984),141.

[3] Edward N. Luttwak Strategy: The Logic of War and Peace,(Cambridge, MASS: Belknap Press, 1987), 91.

[4] Ibid
[5] James J. Schneider, Vulcan's Anvil: The American Civil War and the Emergence of Operational Art,(Fort Leavenworth, KS: U.S. Army Command and General Staff College, 1991), 37.

[6] Robert M. Epstein, Napoleon's Last Victory, (Fort Leavenworth, KS:U.S. Army Command and General Staff College, 1992),11.

[7] Ibid., 264 Epstein describes how the Austrian army also had forces in these theaters but they were more costly to the main effort than Napoleon's. He was able to gather his forces from Italy prior to the decisive battle at Wagram and they in fact provided the margin of victory for the French.

[8] Ibid., 264.

[9] Ibid., 269.

[10] Ibid., 268.

[11] Shimon Naveh, In Pursuit of Military Excellence: The Evolution of Operational Theory, (Portland, OR: Frank Cass Publishers, 1997), 49.

[12] Ibid., 50.

[13] Ibid.

[14] Ibid

[15] ibid., 50-51.

[16] Schneider, Ibid., 65.

[17] Ibid., 65-67.

[18] Thomas A. Dempsey, Employment of Irregular Forces in Support of Conventional Campaigns, (Fort Leavenworth, KS: U.S. Army Command and General Staff College), Thomas A. Dempsey, in his monograph Employment of Irregular Forces in Support of Conventional Campaigns, describes the operations of T.E Lawrence's and H.H.Allenby on the Arabian Peninsula, and Palestine Theater of operations. The strategy and operational methods used seem much the same as those used by Wellington for his Peninsular campaigns. Although, the author does not specifically state this, a reading of the account of operations immediately brings to mind

the actions of Wellington in Spain. These actions in WW I definitely fit the operational model, but were not indicative of the way the war was conducted as a whole.

[19]Martin Van Creveld, Command in War, (Cambridge, MASS: Harvard University Press, 1985), 163.

[20] Ibid., 164.

[21] ibid., 161.

[22] Epstein, Ibid., 10.

[23] Christopher Bellamy, The Evolution of Modern Land Warfare, (New York,NY: Routledge, Chapman and Hall, 1990), 36. Christopher Bellamy in The Evolution of Modern Land Warfare, discusses the role of technology and doctrine. He says "technology must match man: man is the measure. I read this as an affirmation of the pre-imminent position of sound doctrine over of technology. Furthermore, at least in the arena of the social intercourse that is war, virtually worthless without a clear preconceived idea of what purpose it will serve. In the case of France although, its technical abilities were equal to and in the case of WW II superior to Germany's it failed in both cases to develop the doctrine to support the technology. While not the only reason for defeat in these two wars from different eras, this failure was very significant.

[24] Micheal Howard, The Franco-Prussian War, (Cambridge, UK: Cambridge University Press, 1961), 27.

[25] Ibid., 33.

[26] Ibid., 35.

[27] Ibid., 36. Howard describes the French incompetence and lack of recognition of real events as a peculiar form of blindness. This unique arrogance about Prussian capabilities was to prove fatal almost as soon as the war started. The chassepot while superior to the Prussian needle gun could not overcome the terrible preparation of the hastily conscripted French Army. The use of the secret weapon mitrailleuse was totally ineffective; because the very secrecy surrounding its development, prevented the establishment of doctrine concerning it uses.

[28] J.F.C. Fuller, The Conduct of War 1789-1961, (New York, NY: DA CAPO Press, 1961), 246.

[29] Robert A. Doughty, The Seeds of Disaster: The Development of French Army Doctrine 1919-1939, (Hamden, CT: Archon Books, 1985), 3.

[30] Ibid., 2

[31] Fuller, Ibid., 258

[32] Peter Checkland, Systems Thinking, Systems Practice, (New York, NY: John Wiley and Sons, 1981), 103.

[33] Ludwig von Bertalanffy, General Systems Theory, (New York, NY: George Braziller, 1968), 37.

[34] Peter Senge, The Fifth Discipline: The Art & Practice of the Learning Organization,(New York, NY: Doubleday, 1994), 185.

[35] Ibid., 185

[36] Donald Kagan, On the Origins of War and the Preservation of Peace, (New York, NY: Archon Books, 1995), 187.

[37] Ibid., The systemic problems that resulted in WW I were political, cultural, and economic. The convoluted alliances between France, England, and Russia, plus the one between Germany and Austria served to set the two alliances against each other. The late entry of Germany to the colonialism race created tension between Germany and France especially over Morocco. The list goes on and all played a significant role in hastening the war.

[38] Bertalanffy, Ibid., 38

[39] Ibid., 97.

[40] Raymond C. Bjorklund, The Dollars and Sense of Command and Control,(Washington, D.C: National Defense University Press, 1995)

[41] Naveh, Ibid., 6.

[42] Ibid., 65

[43] Ibid., 301

[44] This is of course my interpretation of the writings of Naveh and somewhat a synthesis of the first three chapters of the book. I think it is however, an accurate interpretation based on Naveh's own definition of cognitive tension being the polarization that exists between the tactical, operational, and strategic levels of war. He says that within a system framework this cognitive unity is what keeps the whole endeavor focused on the overall aim. This implies that cognitive tension is an all-inclusive concept that encompasses the people, government, military and the warfighting capability of the nation. Furthermore, since 19th and early 20th century warfare tended to focus on components of systems i.e., technology, mass, decisive battles, instead of the entire system, it was devoid of operational cognition. Thus, you have the appalling casualties in the American Civil War and WW I, and those suffered by the German Army in WW II.

[45] Naveh, Ibid., 17-18

[46] V.K. Triandafillov The Nature Of The Operations Of Modern Armies, ed., Jacob W. Kipp (Portland, OR: Frank Cass & Co. LTD, 1994), 170.

Naveh, Ibid., 11 Naveh says that inclinations towards perpetuating the misconceptions of the Napoleonic experience, and simply substituting mass for sound doctrine delayed the emergence of operational cognition for more than a century. The significance of the operational dimension was recognized by the Russians in the 1920's and was codified into doctrine in the 1930's.

[48] Paul H. Herbert, Deciding What Has to Be Done: General William E. Depuy and the 1976 Edition of FM 100-5, Operations, (Fort Leavenworth, KS: U.S. Army Command and General Staff College, Combat Studies Institute,1988), 78.

[49] Fuller, Ibid., 158.

[50] Ibid., 159.

[51] Ibid., Ibid., 164-165.

[52] J.F.C. Fuller, A Military History of the Western World, (New York, NY: Funk & Wagnalls Company, 1956), 204-205.

[53] Ibid., 229.

[54] Naveh, Ibid., 16.

[55] Ibid.

[56] Ibid., 17.

[57] Ibid.

[58] Ibid., 18.

[59] Ibid., 22.

[60] Naveh, Ibid., 251.

[61] P.H. Vigor, Soviet Blitzkrieg Theory, (New York, NY: St. Martins Press, 1983), ix.

[62] Ronald H. Cole, Operation Just Cause, (Washington, D.C: Joint History Office, Office of the Joint Chiefs of Staff, 1995), 39.

[63] P.H. Vigor, Soviet Blitzkrieg Theory. In his discussion of the Soviet invasion of Czechoslovakia Vigor says from the initiation of the attack to its completion took 24 hours. The Soviets within a period of one day invaded and subjugated a nation with negligible losses to either side. The Soviet methods of speed, surprise, and simultaneity led to operational shock. To sustain the victory they removed the present governing body and instituted their own puppet government.

[64] Cole, Ibid., 2-3.

[65] Ibid., 1.

[66] Cole's discussion on the PDF mentions how leaders in the PDF were intriguing constantly to replace Noriega. In fact, two coup attempts happened while the U.S. was planning for the invasion. The leadership took much criticism for not supporting the efforts of those in the PDF that were attempting to replace Noriega. However, this in fact demonstrates that the PDF itself was a cause for concern and whoever replaced Noriega would possibly be as bad or worse.

[67] Cole, Ibid., 14. The failed coup by a PDF Major in October demonstrated the unstable nature of the PDF leadership. The leader of the coup was the same Major that had foiled an earlier coup against Noriega. The major change to the operational plan involved an increase in forces directly targeted at ensuring overmatch in the more aggressive posture toward the PDF.

[68] Cole, Ibid., 65-66. The organized resistance portion of the operation was completed within five days. The resistance of irregular and independent forces with no centralized control continued into

mid January. The complete operation counting the period of unorganized resistance lasted about 30 days. This period saw nation building began as soon as the elected officials were back in charge, which was as early as 25 December.

[69] Clausewitz, Ibid., 97

[70] Daniel P. Bolger, Savage Peace: Americans at War in the 1990's, (Novato, CA: Presidio Press, 1995), 328-329.

[71] Ibid., 282-283.   Bolger says that the initial charter was to establish secure areas for food distribution. This does not equate to waging war against warlords. The way this mission became skewed was inevitable. To secure safe areas the warlords capability to disrupt the operations would have to be reduced. To accomplish this someone would have to take their weapons.

[72] Ibid., 284. Bolger says that the UN invoked chapter 7 for the first time formally authorizing the use of force to resolve the issue. This was well beyond what the U.S. leadership had envisioned but they proceeded with the introduction of U.S. forces into the theater.

[73] Ibid., 269.

[74] Ibid.

[75] Ibid., 295.

[76] Ibid., 298-301.

[77] Ibid., 305. Bolger says "trading bullets rifleman to rifleman gained little but losses and frustration."

[78] Ibid., 329. Bolger calls this raid a "flawed operational choice, which negated the American tactical skill."

[79] Terrence Lyons and Ahmed I. Samatar, Somalia: State Collapse, Multilateral Intervention, and Strategies for Political Reconstruction, (Washington, D.C: The Brookings Institution, 1995), 59.

[80] John F. Guilmartin Jr. ed, Lloyd J. Matthews, Challenging the United States Symmetrically and Asymmetrically: Technology and Asymmetrics in Modern Warfare, (Carlisle Barracks, PA: U.S. Army War College, Strategic Studies Institute, 1998), 29.

[81] Ibid.

[82] Bolger, Ibid., 328. Bolger says that Les Aspin was dismissed because he did not provide the appropriate level of technology required for this environment, in this case tanks and infantry fighting vehicles.

[83] U.S. Army Command and General Staff College, FM 100-5 Draft the Operational Framework, (Fort Leavenworth, KS: U.S. Army Command and General Staff College.

[84] Concept paper on operational framework and seminar discussion with LTG Steele Commander CAC, 29 APR 1999.

[85] Robin P. Swan and Dave Moore, Concept Paper: Operational Framework, (Fort Leavenworth, KS: Seminar 1, 1999), Dave Moore, Finley, Swan, Operational Framework concept paper, says that the traditional framework of operations distributed from combat forces forward to sustainment forces to the rear does not fit in an asymmetrical or SASO environment. Because logistics bases, and other functions normally associated with rear areas are dispersed throughout the theater.

[86] Herbert, Ibid., 78. Herbert says that "General Depuy linked the Army's development of doctrine directly to its development and analysis of weapons systems." The weapons systems Depuy sought to procure eventually resulted in the M1, Bradley, Apache, and Blackhawk. However, more importantly the debate resulted in the U.S. adopting operational art and thinking operationally in the 1982 and 86 versions of FM 100-5 Operations.

[87] Stephen J. Blank ed, Lloyd J. Matthews, Challenging the United States Symmetrically and Asymmetrically: Can America be Defeated? (Carlisle Barracks, PA: U.S. Army War College, Strategic Studies Institute, 1998),248.

[88] Ibid., 248.

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